ABSTRACTS

ONE HEALTH APPROACH ON ANTIMICROBIAL RESISTANCE AND THE PRUDENT USE OF ANTIBIOTICS IN FISH FARMING

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Aquaculture provides nowadays half of the world's seafood consumption and it is expected to expand since wild fisheries will remain stable at best. Considering the importance of aquaculture for contributing to food security over the world (fish accounted for 17% of the world population intake of animal proteins), therefore, producers will have to meet challenging goals to make aquaculture more sustainable and productive in future. Indeed, diseases are a severe threat to the sustainability of aquaculture and often jeopardize the efforts of millions of small fish farmers throughout the world. The extensive use of antibiotics to prevent and treat infections over the world, and in some countries for growth promotion, has been associated with the emergence and spread of resistant bacteria to antibiotics through the food chain and the environment, which pose a threat to both human and animal health. Up to 80% of antibiotics, generally administered to fish in feed, are released in water and sediments, where they exert a selective pressure on the microbial communities of the aquatic environment. Knowing that selection of resistant bacteria can occur at extremely low antibiotic concentrations, aquatic environment may provide the ideal setting for antimicrobial resistance (AMR) dissemination. The situation is alarming in food-producing animal, including aquaculture, by the use of antibiotics that are common to human health and by the lack of investment in developing new effective antimicrobials. Thus, the UN General Assembly declared in 2016 that AMR is "the most urgent global risk" and emphasizes the importance of international cooperation in tackling AMR at global level. The European Commission Action Plan specified the most needed measures among which it is worth to mention: preventing microbial infections and their spread; developing alternatives for treatments; cooperating with international partners to contain the risks of AMR; promoting research and innovation and improving communication and training. The new European "Animal Health Law" of March 2016 puts greater emphasis on the prevention and control of animal diseases as an important tool for fighting AMR in human, animals and the environment. At international level, several initiatives are taken jointly by WHO, FAO and OIE for the prudent use of antibiotics toward a One Health approach and for recommendations targeted at reducing AMR in animal production on a global scale (FAO 2016). The concept "prevention is better than cure" remains one of the most important measure for reducing antibiotics and for preserving their efficacy for therapeutic purposes only.